

WHAT IS CLAIMED IS:

1. A system for recognizing zero-amplitude symbols in a quadrature amplitude modulated (QAM) signal, comprising:

an amplitude detector that extracts a candidate symbol from said signal and locates said candidate symbol relative to a constellation of symbols; and

a zero-amplitude symbol interpreter, associated with said amplitude detector, that recognizes said candidate symbol as being a zero-amplitude symbol when said candidate symbol is closer to an origin of said constellation than to symbols proximate thereto.

2. The system as recited in Claim 1 wherein said zero-amplitude symbol constitutes an end-of-file symbol according to a Home Phoneline Networking Alliance standard.

3. The system as recited in Claim 1 wherein a plurality of said zero-amplitude symbols separate subframes according to a Home Phoneline Networking Alliance standard.

4. The system as recited in Claim 1 wherein said symbols proximate said origin number four in quantity.

5. The system as recited in Claim 1 wherein said symbols proximate said origin are located at relative amplitudes of:

1,1,

1,-1,

-1,1, and

-1,-1.

6. The system as recited in Claim 1 wherein said constellation is arranged on a Cartesian plane.

7. The system as recited in Claim 1 wherein said zero-amplitude symbol interpreter is free of a slicer table.

8. A method of recognizing zero-amplitude symbols in a quadrature amplitude modulated (QAM) signal, comprising:

extracting a candidate symbol from said signal;
locating said candidate symbol relative to a constellation of symbols; and

recognizing said candidate symbol as being a zero-amplitude symbol when said candidate symbol is closer to an origin of said constellation than to symbols proximate thereto.

9. The method as recited in Claim 8 wherein said zero-amplitude symbol constitutes an end-of-file symbol according to a Home Phoneline Networking Alliance standard.

10. The method as recited in Claim 8 wherein a plurality of said zero-amplitude symbols separate subframes according to a Home Phoneline Networking Alliance standard.

11. The method as recited in Claim 8 wherein said symbols proximate said origin number four in quantity.

12. The method as recited in Claim 8 wherein said symbols
proximate said origin are located at relative amplitudes of:

1,1,

1,-1,

-1,1, and

-1,-1.

13. The method as recited in Claim 8 wherein said
constellation is arranged on a Cartesian plane.

14. The method as recited in Claim 8 wherein said zero-
amplitude symbol interpreter is free of a slicer table.

15. A digital receiver, comprising:

a digital-to-analog (D/A) converter that converts a received quadrature amplitude modulated (QAM) signal in digital form to analog form;

a demodulator, coupled to said D/A converter, that demodulates said QAM signal;

an equalizer, coupled to said demodulator, that equalizes said QAM signal;

a slicer, coupled to said equalizer, that recognizes nonzero- and zero-amplitude symbols in said QAM signal, said slicer having a system for recognizing said zero-amplitude symbols, including:

an amplitude detector that extracts a candidate symbol from said signal and locates said candidate symbol relative to a constellation of symbols, and

a zero-amplitude symbol interpreter, associated with said amplitude detector, that recognizes said candidate symbol as being a zero-amplitude symbol when said candidate symbol is closer to an origin of said constellation than to symbols proximate thereto; and

a decoder, coupled to said slicer, that decodes said nonzero- and zero-amplitude symbols to yield data.

16. The receiver as recited in Claim 15 wherein said zero-amplitude symbol constitutes an end-of-file symbol according to a Home Phoneline Networking Alliance standard.

17. The receiver as recited in Claim 15 wherein a plurality of said zero-amplitude symbols separate subframes according to a Home Phoneline Networking Alliance standard.

18. The receiver as recited in Claim 15 wherein said symbols proximate said origin number four in quantity.

19. The receiver as recited in Claim 15 wherein said symbols proximate said origin are located at relative amplitudes of:

1,1,
1,-1,
-1,1, and
-1,-1.

20. The receiver as recited in Claim 15 wherein said constellation is arranged on a Cartesian plane.

21. The receiver as recited in Claim 15 wherein said slicer
2 employs a slicer table to interpret said nonzero symbols, but said
3 zero-amplitude symbol interpreter is free of said slicer table.

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